

SENSATA SOLUTIONS FOR ACCESS CONTROL APPLICATIONS

Background

Access control applications are one of the few industrial applications all humans interact with on a daily basis. Parking gates, handicap lifts, tail lifts and roll up freight doors are a few renditions of this type of application. As our cities become busier, access control applications are continuously growing in demand. Access control systems take a beating. They need to endure constant human usage as well as survive demanding outdoor environments. Additionally, maintenance is becoming a larger concern, as many of these applications need to work remotely with limited tech staff on call. Breakdowns can lead to

a loss of business or even a complete stoppage of transportation routes.

Newer designs are demanding components that can withstand the abuse of constant usage and endure the extremes of the environment, all while extending current cycle life norms.

Access control applications are demanding components that can withstand the abuse of constant usage while enduring the extremes of the environment.

Solution

Space, environment abuse, and maintenance are three of the biggest concerns when it comes to new designs for access control applications. New designs require smaller components so that the application itself can fit into tighter areas. Resistance to the elements as well as vibration is of great importance. As access control applications become more prevalent, their components need to withstand the environments they live in. Finally, components that reduce maintenance play a significant role as well. Due to their remoteness, access control applications need to have long cycle lives and their components need to work together to preserve the lifetime of critical aspects, like the motor.

Switches & Relays are used to switch motors or pumps used in access control systems. Our solid state relays contain features that reduce power consumption and wear & tear on various components in the system. Solid state relays make a good solution when the application is remote and the quantity of switching is high.

Pressure Sensors & Switches are used in access control applications that implement hydraulic systems. They are found in the pump station that controls the rising and lowering of the unit. Pressure ranges in these applications typically range from 100 to 260 PSI and require accuracy, but must also be cost effective.

Position Sensors are critical to the elements of access control systems that rely on the position of an object. This could be an arm of a gate or a roller of a door. Our position sensors are contactless and rugged, making them perfect for access control applications where abuse from weather occurs or a reduction in maintenance is preferred.

Motor Protection components are used to protect the motor of access control applications. Motor failure can lead to a complete and total shut down of the application, hindering traffic or business. Furthermore, maintenance can be costly and hard to execute for remote access control applications. Motor protection helps prevent damage to the motor, reducing maintenance needs.










RECOMMENDED PRODUCTS

Reference on Diagram	Product	Function	Features	Brand
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Switches & Relays

1	 EL Series	The EL series is a solid state relay that offers solid state switching benefits in a compact package suitable for the space constraints of access control applications. With no moving parts, it has the durability to last in demanding applications that experience constant usage.	<ul style="list-style-type: none"> • 21mm wide package • 10A & 30A @ 24 to 280 VAC • UL & cUL Recognized, CE & RoHS Compliant, TUV certified 	Crydom
2	 DRC Series	The DRC Series is a solid state contactor designed for frequently switching three phase loads up to 5 HP, 600 VAC 7.6 Amps. It includes an interlock control that allows only forward and reverse operation in a safe mode.	<ul style="list-style-type: none"> • Zero Voltage or Instantaneous turn-on output • C-UL-US Listed, IEC Rated CE & RoHS Compliant, Horsepower Rated • Built-in Overvoltage Protection 	Crydom
3	 DRMS Series	The DRMS series is a hybrid motor starter. It offers soft start, soft stop, and motor reversing functions in a compact 22.5mm package. The soft start, stop, and motor reversing functions extend the lifetime of access control applications while the compact size can free up needed space.	<ul style="list-style-type: none"> • Soft Start, Soft Stop, and Motor Reversing Functions • Built-In Overload Protection • Optional Mains Isolating Relay 	Crydom
4	 HDC Series	Tail lifts, handicap ramps, and other vehicle access control applications often use hydraulic systems to operate. The HDC series is an ideal relay for switching loads for these systems. It offers less coil consumption, longer cycle life, high vibration ratings, and soft start functions versus standard EMR solutions.	<ul style="list-style-type: none"> • 120 or 160 AMP DC Load ratings @ 40°C ambient w/heat sink • 48, 72, or 150 VDC Operational Voltage Ratings • LED Input Status Indicator 	Crydom


Pressure Sensors & Switches

5	 P4000	The P4000 pressure sensor uses stainless steel construction and piezo-resistive sensing technology to create a robust but accurate sensor. This would be ideal for access control applications that use hydraulic systems to move an apparatus.	<ul style="list-style-type: none"> • Welded Stainless Steel Construction • Temperature Compensated • High Vibration Tolerance 	Sensata Technologies
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Position Sensors & Encoders

6	 ACW4/TCW4	The ACW/TCW Hall Effect sensors are used for aspects of the equipment that rely on position. It is a contactless position sensor with completely encapsulated electronics. This reduces troublesome maintenance and protects the sensors from the demanding environments of access control applications.	<ul style="list-style-type: none"> • 0.3% Linearity • Overvoltage, Reverse Polarity, Short Circuit Protection Available • Completely encapsulated electronics 	BEI Sensors
7	 9850 Series	The 9850 rotary potentiometer is a value position sensor. It offers a true ratiometric reading which can be of benefit for access control applications where the power supply is far from the actuation point.	<ul style="list-style-type: none"> • IP65 & IP66 ratings available • Dual-output • Low-profile, compact package 	BEI Sensors
8	 9960 Series	Automated gates need to stay on track and avoid closing on obstacles during operation. This can be achieved through a Hall Effect position sensor. The 9960 series offers a value position sensor in a package that is rated for harsh environments allowing it to withstand the elements. Furthermore, its contactless sensing reduces maintenance calls.	<ul style="list-style-type: none"> • IP67 and IP69k packages available • Non-Contact Hall Effect Sensor • Full 360 degree travel range 	BEI Sensors

Electrical Protection

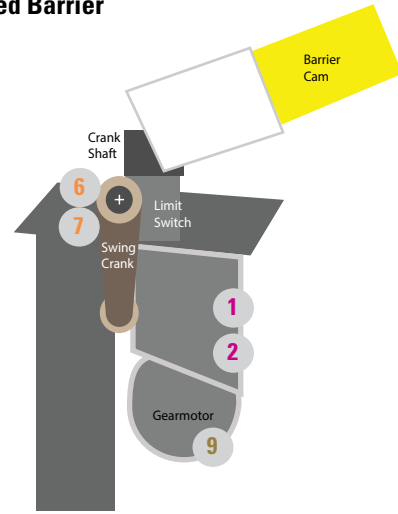
9	 AC Off-Winding Motor Protector	The AC Off-winding three-phase motor protector does exactly what it says: Protects a three-phase motor against overheating. A damaged motor can lead to a back up of traffic flow for access control applications and quick maintenance can be troublesome. An off-winding three-phase motor protector can prevent damage associated with constant operation.	<p>Protects Motors Against:</p> <ul style="list-style-type: none"> • Stalling or Failure to Start • Single-Phasing • Plugging Duty • Running Overload 	Klixon
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Automated Loading Gate



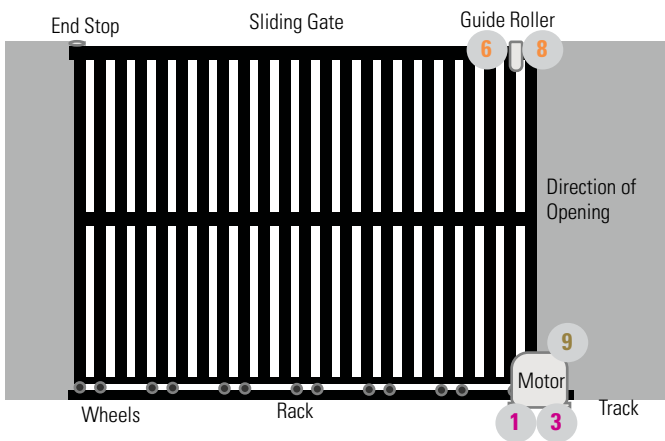
1 EL Series	3 DRMS Series
2 DRC Series	6 ACW4/TCW4 Series

Car Automated Barrier



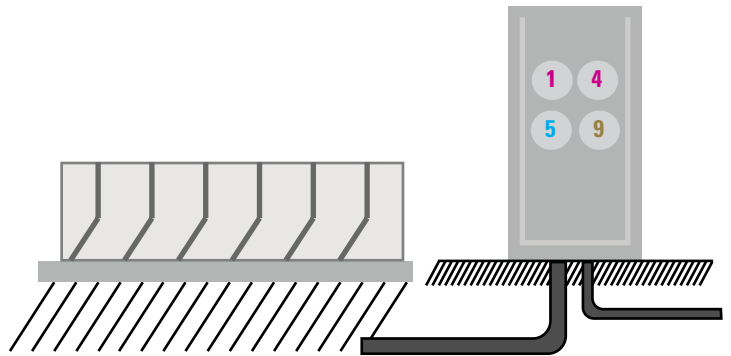
1 EL Series	6 ACW4/TCW4 Series
2 DRC Series	7 9850 Series
	9 AC Off-Winding Motor Protector

Automated Gate



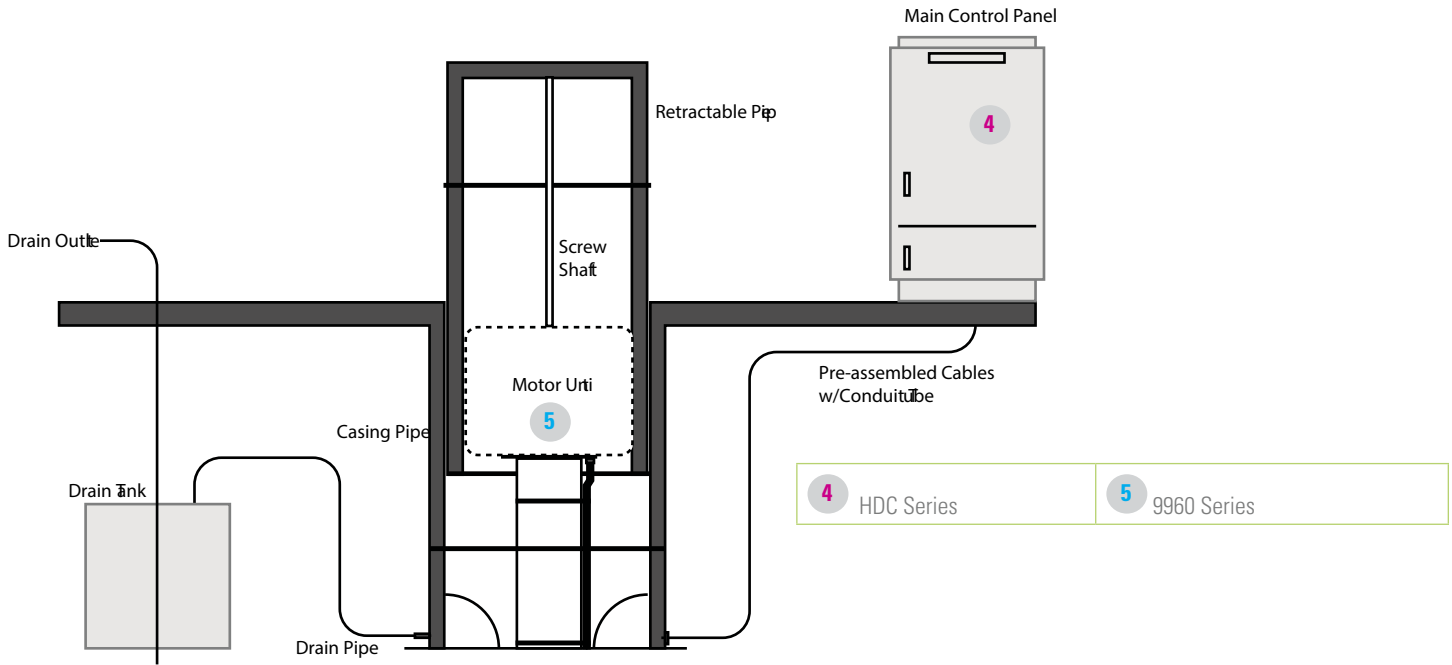
1 EL Series	6 ACW4/TCW4 Series
3 DRMS Series	8 9960 Series
	9 AC Off-Winding Motor Protector

Hydraulic Vehicle Safety Barrier

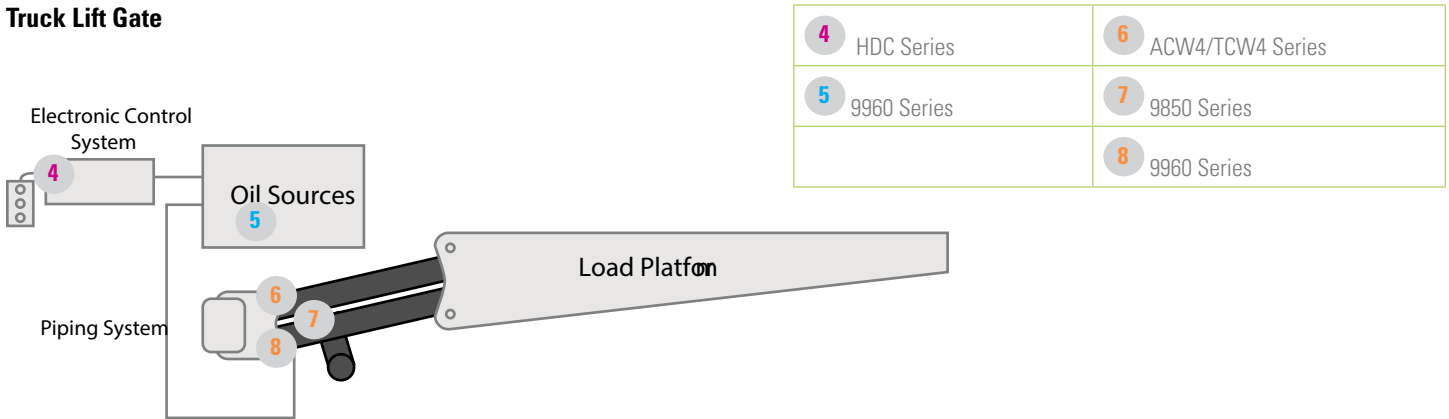


1 EL Series	5 9960 Series
4 HDC Series	9 AC Off-Winding Motor Protector

Automated Traffic Bollard



Truck Lift Gate



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Americas

Pressure Sensors and Switches
 +1 (800) 350 2727
sensors@sensata.com
switches@sensata.com
 Switches & Relays
 +1 (877) 502 5500 – Option 2
sales.crydom@sensata.com
 Position Sensors & Encoders
 +1 (800) 350 2727 – Option 1
sales.beisensors@sensata.com
 Electrical Protection
electrical-protection-sales@sensata.com
 +1 508 236 2551
Europe, Middle East & Africa
 Pressure Sensors and Switches
 +359 (2) 809 1826
pressure-info.eu@sensata.com
 Switches & Relays
 +44 (1202) 416170
ssr-info.eu@sensata.com

CONTACT US

Position Sensors & Encoders
 +33 (3) 88 20 8080
position-info.eu@sensata.com
 Electrical Protection
info-sse@list.sensata.com
 +31 74 3578156
Asia Pacific
sales.isasia@list.sensata.com
 China +86 (21) 2306 1500
 Japan +81 (45) 277 7117
 Korea +82 (31) 601 2004
 India +91 (80) 67920890
Rest of Asia +886 (2) 27602006 ext 2808
 Electrical Protection
EP_Asia_Public@list.sensata.com
 Phone number:
 China +86(21)2306 1651
 India / Middle East +91(40)4033 9611
 Japan +81(45)277 7104
 Korea +82 (53) 644 9685
 Rest of Asia +65 (6478) 6860